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Randall Howard

LGL Ecological Research Associates, Inc.

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A MARINE MIDGE FROM THE GULF OF MEXICO

RANDALL HOWARD

LGL Ecological Research Associates, Inc.

1410 Cavitt Street

Bryan, Texas 77801

ABSTRACT The distribution of the marine midge *Telmatogeton japonicus* Tokunaga (Diptera) is extended into the northwestern Gulf of Mexico. This is the first reported use of offshore oil and gas platforms by marine midges and the first occurrence of this typically rocky shore intertidal group in an offshore environment.

Larvae of non-biting midges in the family Chironomidae (Insecta: Diptera) are abundant in most types of aquatic habitats. The majority of species are found in fresh water where more than half the species of macroinvertebrates may be chironomids (Coffman 1978). Of the approximately 120 genera and over 5,000 species in the family, 12 genera represented by 50 species are marine (Hashimoto 1976). Marine chironomids have been observed on intertidal rocky shores, coral reefs, and sandy and muddy bottoms of which the majority are associated with algae on rocky shores (Hashimoto 1976, Neumann 1976). Geographically, most marine chironomids are found on islands and shorelines of the Pacific Ocean. In North America, most species are found on the west coasts of Canada and the United States with only three east coast species (Wirth 1952, Beck and Beck 1959, Morley and Ring 1971, Hashimoto 1976).

Prior to this study the only documented occurrences of marine midges in the Gulf of Mexico were three species, *Thalassomya bureni* Wirth, *Clunio marshalli* Stone and Wirth, and *Telmatogeton japonicus* Tokunaga, reported from Florida (Wirth 1952, Beck and Beck 1959). I observed and collected larvae, pupae, and adults of *Telmatogeton japonicus* Tokunaga from offshore oil and gas platforms at three locations in the northwestern Gulf of Mexico. Locations of these sites were (1) 50 km south-southeast of Galveston, Texas (Buccaneer Gas and Oil Field, latitude 28°52'N, longitude 94°42'N); (2) 80 km south of Cameron, Louisiana (29°04'30"N, 93°25'40"W); and (3) 180 km southeast of Galveston, Texas (27°52'23"N, 93°53'43"W). Observations and collections were made during (1) December and March 1978, and February and August 1979 at site 1; (2) August 1979 at site 2; and (3) April 1980 at site 3. Both adults and immature stages were present in each collection period.

Offshore platforms in the Gulf of Mexico represent a new type of habitat for marine chironomids as well as an extension of the known distribution for *T. japonicus*. This species has previously been found in Japan, Hawaii, Australia, New York and Florida (Wirth 1952, Beck and Beck 1959, Hashimoto 1976).

The following ecological observations are based primarily on observations made at site 1; the collections at sites 2 and 3 were single events with fewer ancillary data noted. Larvae and pupae were found in silken tubes attached to the steel structures of platforms above the water line and to barnacles (mostly *Balanus tintinnabulum*) 0–10 cm below the water line. Larvae and pupae were observed from the water line to a height of about 1.5 m where they were more dense among a black zone of encrusting algae, presumably blue-green. Below the water line, larvae and pupae were attached to barnacles and among short but dense growths of algae which were growing on barnacles. Adults seldom ventured more than 1 m above the water line except during periods of severe wave action (a few individuals were observed 3–4 m high on the platform during these occasions).

Specimens collected in this study were found among, or in the vicinity of, growths of algae including *Cladophora* sp., *Polysiphonia* sp., *Enteromorpha* sp., and others. Wirth (1947) noted that most marine species of *Telmatogeton* prefer algae-covered rocks as habitat in fairly heavy surf. Each species has been associated with a dominant alga. Tokunaga (1935) noted that *T. japonicus* was always found between the tide marks on hard surfaces covered with three species of green algae—*Enteromorpha compressa*, *Ulva pertusa*, and *Monostroma* sp. Larvae in Hilo, Hawaii, were found on boulders near the outlet of a bay-front storm sewer where there was a heavy growth of *Ulva* sp. and *Enteromorpha* sp. (Wirth 1947).

On one occasion I observed spring-migrating warblers, which had apparently stopped to rest at the platforms at site 1, feeding on the adult midges. Predators of marine midge larvae have been reported to be shore crabs and tide-pool fish, and the adults were found to be prey to marine striders and mites (see review by Hashimoto 1976).

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